

**REMARKS**

Applicant respectfully requests further examination and reconsideration in view of the above amendments and arguments set forth fully below. Claims 13-15, 17-20, and 22 were previously pending in this application. Within the Office Action Claim 13-15, 17-20, and 22 have been rejected. By way of the above amendment, Claim 13 has been amended. Accordingly, Claims 13-15, 17-20, and 22 are still pending in this application.

**Rejections Under 35 U.S.C. § 112**

Within the Office Action, Claims 13-15, 17-20, and 22 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards and the invention. Specifically, it is stated within the Office Action that there is no support in the Specification for the term “calculating a therapeutic ratio,” such as recited in the independent Claim 13. By way of the above amendment, the independent Claim 13 has been amended to recite “calculating the antiseptic dose of laser radiation” instead of “calculating a therapeutic ratio.” There is clear support for the term **antiseptic dose** and its meaning throughout the Specification. Accordingly, Applicant respectfully requests that the rejection of Claims 13-15, 17-20, and 22 under 35 U.S.C. §112, second paragraph, be withdrawn.

**Rejections Under 35 U.S.C. § 102(b)**

Within the Office Action, Claims 13-15, 17-20, and 22 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over an article titled “DETERMINING THE ENERGY DENSITY THRESHOLD FOR ABLATION OF BACTERIA- A VITRO STUDY,” by Coffelt et al. (hereafter “Coffelt et al.”) in view of U.S. Patent No. 5,795,153 to Rechmann (hereafter “Rechmann”).

Coffelt et al. has been characterized in the previous communication. In summary, Coffelt et al. teach contaminating dentin with a bacteria and exposing the contaminated dentin with a range of laser exposures. Bacteria cultures are then regrown from the treated dentin samples and the dentin samples are examined under a microscope. By examining the regrown cultures and visual damage to the dentin sample, a threshold laser exposure can be determined, whereby the maximum amount of the bacteria is irradiated while minimizing the damage to the dentin samples. In contrast to the teachings of Coffelt et al., the present invention is directed to developing laser treatment protocols by irradiating pathogens in media or medium (material)

other than dentin. The eradication of the pathogen is monitor within the material and this information used to select an antiseptic dose. These features, which are now clearly recited in the independent Claim 13, are neither taught or suggested by Coffelt et al.

Rechmann teaches treating periodontal pockets with laser light. Rechmann fails to teach irradiating a target with a pulsed laser output, wherein the target comprises the pathogen and a material that is different from the periodontal tissue. Nor does Rechmann teach calculating an antiseptic dose of laser radiation for treating the periodontal tissue comprising the pathogen based on a known response of periodontal tissue to the laser output and the ablation threshold of the pathogen within the target, wherein the antiseptic dose of laser radiation eradicates the pathogen within the periodontal tissue with a minimal damage to the periodontal tissue such as now recited in the independent Claim 13.

In stark contrast to the teachings of Coffelt et al., Rechmann or their combination, the present invention is directed to developing a treatment protocols for laser treatment of periodontal tissues having a pathogen. The treatment protocol is developed by exposing the pathogen with a range of laser exposures in a target comprising the pathogen in a material other than that of the periodontal tissues. Eradication of the pathogen is monitored to determine an ablation threshold of the pathogen within the target medium. From the ablation threshold and a known response of the periodontal tissues to the range of laser exposures, a antiseptic dose of laser radiation can be calculated using correlation and modeling techniques. The antiseptic dose of laser radiation can then be used to select a treatment protocol for the periodontal tissues having the pathogen. These features are neither taught nor suggested by the teachings of Coffelt et al., Rechmann or their combination. For at least this reason, the independent Claim 13 is allowable over the teachings of Coffelt et al, Rechmann and their combination.

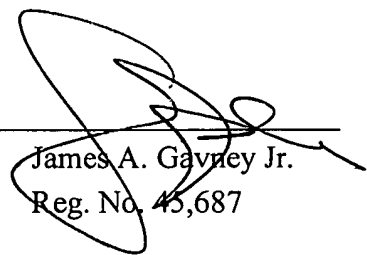
Claims 14, 15, 17-20 and 22 are all dependent on the independent Claim 13. As described above, the independent Claim 13 is allowable over the teachings of Coffelt et al, Rechmann and their combination. Accordingly, Claims 14, 15, 17-20 and 22 are also all allowable as being dependent on an allowable base claim.

For the reasons given above, Applicant respectfully submits that Claims 13-15, 17-20 and 22 are now in condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, the Examiner is encouraged to call the undersigned at (408) 530-9700 to discuss them so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,  
HAVERSTOCK & OWENS LLP

Dated: 5/8/2006

By: \_\_\_\_\_

  
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CERTIFICATE OF MAILING (37 CFR § 1.8(a))

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